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PATENT APPLICATION
Docket No. 2705-149**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: JIABIN ZHAO.

Serial No. 09/919,982

Examiner: Mark A. Mais

Confirmation No. 5793

Filed: July 31, 2001

Group Art Unit: 2664

For: VoIP OVER ACCESS NETWORK

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**DECLARATION TO OVERCOME A CITED PUBLICATION (37 C.F.R. 1.131)**

1. The person making this declaration is JIABIN Zhao, representative inventor of the above-referenced patent application ("Application").

2. Certain claims of U.S. Patent Application Ser. No. 09/919,982 are currently rejected in view of certain prior art, *inter alia*, under 35 USC §102(e) in view of U.S. Publication No. 2002/0176403 A1 (Radian). Radian has a filing date in the United States ("Effective Date") of March 20, 2001.

3. Conception of the invention that is the subject of the claims in the present application occurred prior to the Effective Dates of the Radian as evidenced by the attached Invention Disclosure document (Exhibit A) submitted internally at Cisco. Portions of the original Invention Disclosure document have been redacted because they do not relate to the invention.

4. Work on the invention was conducted continuously from a date prior to the Effective Date, until the date of filing of the above referenced patent application, and thereafter.

Docket No. 2705-149

Page 1 of 2

Application No. 09/919,982

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Jabin ZHAO

Dated: Nov. 7, 2005

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Cisco Patents On-Line (CPOL)

Patent Idea Details (#83741)

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#83741: VoIP over Access Network

Status Info

① Reviewers need to review this ideal

Entered:

Serial #: ---

U.S. Pat #: ---

Modified:

File Date: ---

Issue Date: ---

View patent: *Not available.*

Current Status:

Full Details

Inventors: Jiabin Zhao

Work
Phone:

Manager:

Department: MPSBU
EngineeringDivision: SP
PAMNSGSite: SAN
JOSEInfo: [View in Cisco
Directory](#)

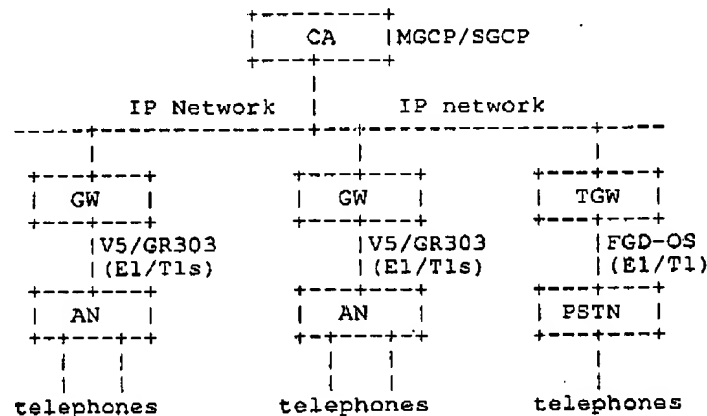
Background: The access network (AN) is similar to a PBX in connecting to the subscriber lines. The AN is responsible for the physical connection or termination of the subscriber lines. It transmits subscriber speech data, and line signals such as off-hook, on-hook, duration, voltage, frequency of meter pulse, ringing current and dial pulse receiving. It also does maintenance for the subscriber lines. However, an AN can't do switching and call processing. The central office or local exchange is responsible for the switching and call processing even for the local calls in the access network. Most notably, the access network is owned by the service providers unlike the PBX.

Therefore, an AN to a service provider is similar with a PBX to an enterprise company. The existing AN systems provides us a great opportunity to enter the CLEC and SP markets like we did for the enterprise market by using the existing PBX systems.

In order to do VoIP over Access Network, a GR303/V5 interface is needed between the gateway and AN. However, the interface is different from the traditional V5/GR303 interface since the interface needs to talk to the call agent before it responses to any request from an AN, or sends commands to an AN. Moreover, the protocol converter between V5/GR303 and MGCP plays a very important role in this design. In the following section, a detail description is given.

EXHIBIT A

Summary: The call agent acts the same role as a switch module of a class 5 switch for switching and call processing. The main difference is that the gateway with the V5/GR303 interface talks with the call agent over IP network. The following is a typical application with a modified interface in the gateway, which also includes a TGW with FGD-OS to interface with a traditional PSTN network.



The following is a basic call flow in the above network.
V5 <--> MGCP is used as an example.

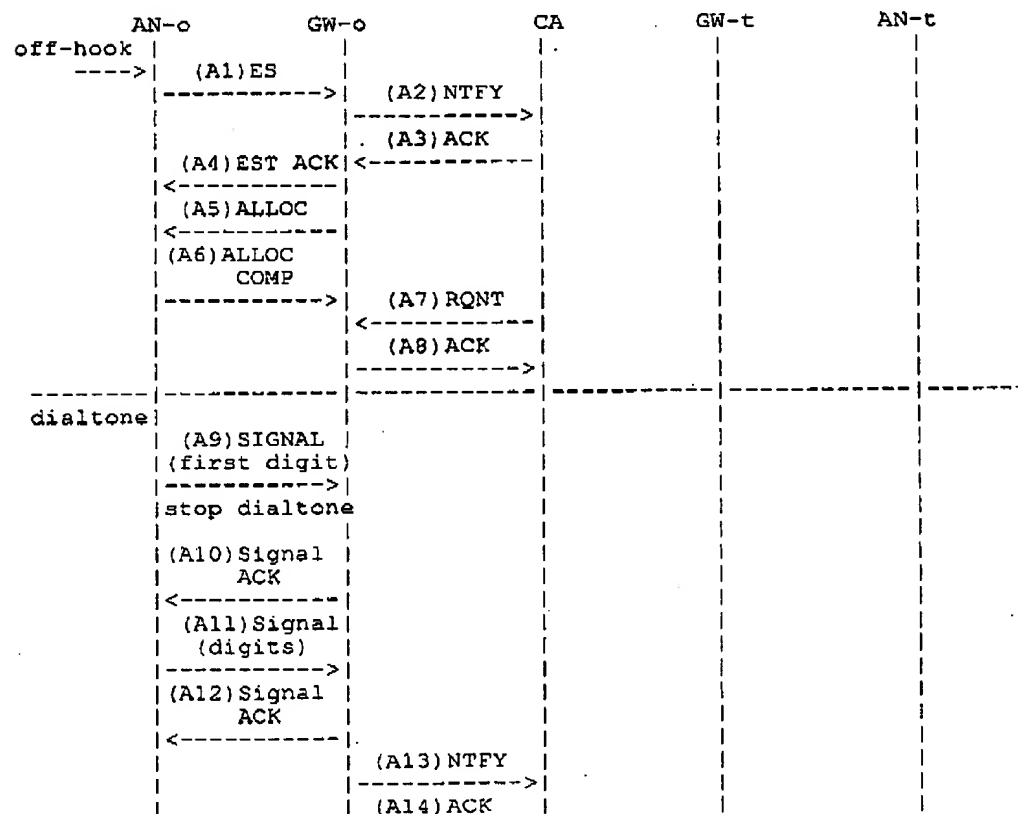


EXHIBIT A

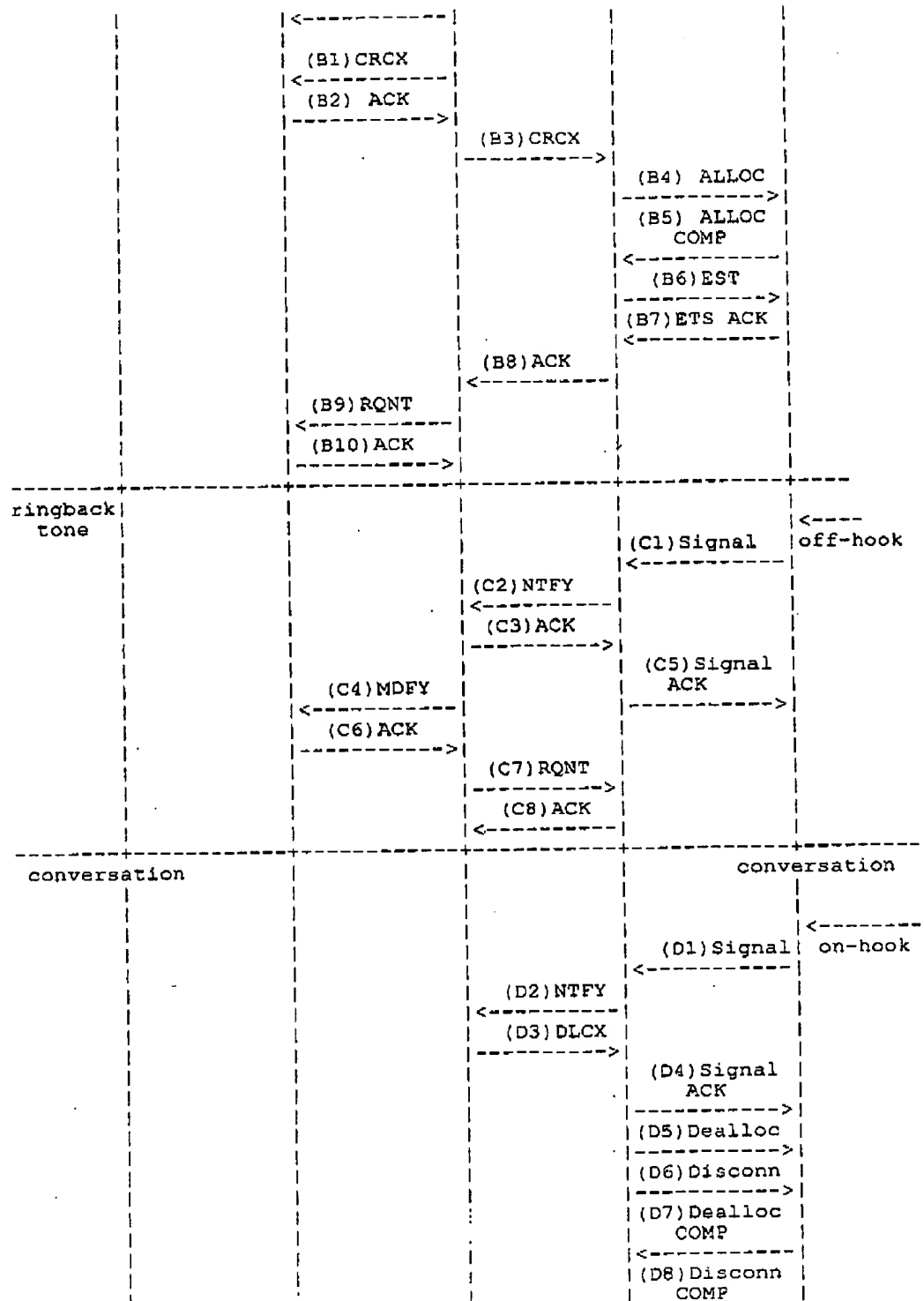
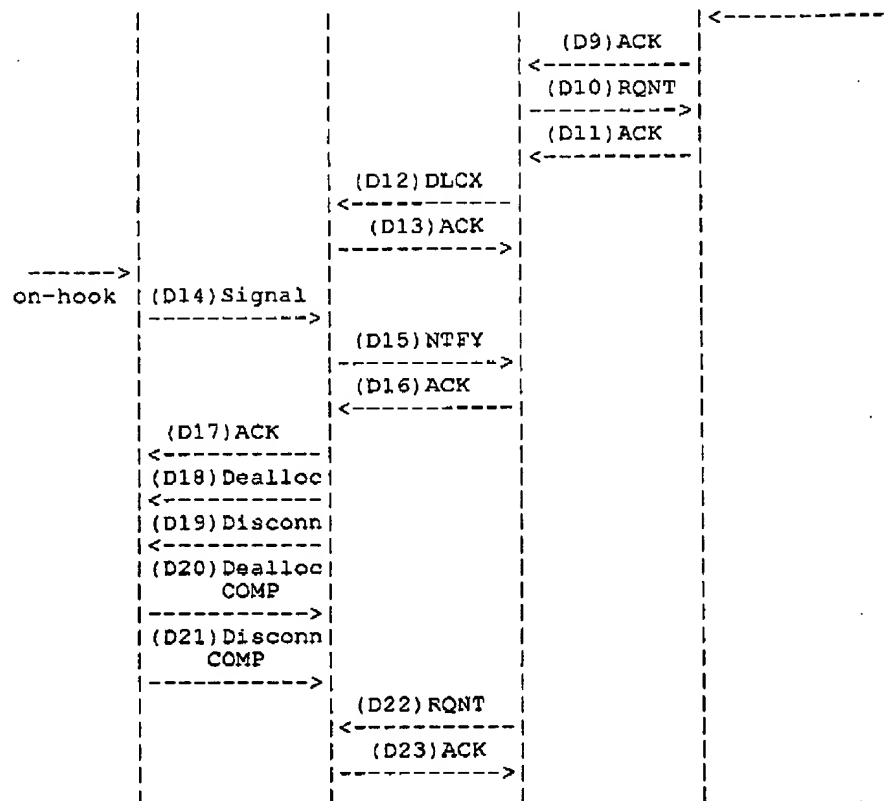


EXHIBIT A



A detail description for each call state will be available upon request.

- Advantages:**
1. The V5/GR303 interface in the network is different from the traditional one since a call agent is involved in the call processing and switching.
 2. A V5/GR303 interface talks directly to the call agent with the protocol converter (V5/GR303<-->MGCP) in the gateway.
 3. The idea enables an universal call agent can be used in VoIP network using AN.
 4. Implementation of this idea in a V5/GR303 interface of a gateway makes the whole VoIP network very compact.

Cisco Use:

EXHIBIT A